

SEQUENCE LISTING



**COPY**

<110> Pangalos, Menelas  
Neefs, Jean-Marc  
Peeters, Danielle

<120> Cloning and Characterisation of Novel Mammalian Peptidases

<130> J0205/7000 (JRV)

<140> 09/743,647

<141> 2001-01-12

<150> GB 9815284.6

<151> 1999-07-14

<160> 59

<170> PatentIn version 3.0

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<212> PRT

<213> Homo sapiens

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Asn Ser Leu Ala Pro Gln Asp Leu Asp Leu Glu Ile Leu Glu Thr Val  
35 40 45

Met Gly Gln Leu Asp Ala His Arg Ile Arg Glu Asn Leu Arg Glu Leu  
50 55 60

Ser Arg Glu Pro His Leu Ala Ser Ser Pro Arg Asp Glu Asp Leu Val  
65 70 75 80

Gln Leu Leu Leu Gln Arg Trp Lys Asp Pro Glu Ser Gly Leu Asp Ser  
85 90 95

Ala Glu Ala Xaa Thr Tyr Glu Val Leu Leu Ser Phe Pro Ser Gln Glu

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Gln	Pro	Asn	Val	Val	Asp	Ile	Val	Gly	Pro	Thr	Gly	Gly	Ile	Ile	His
		115					120					125			
Ser	Cys	His	Arg	Thr	Glu	Glu	Asn	Val	Thr	Gly	Glu	Gln	Gly	Gly	Pro
	130					135					140				
Asp	Val	Val	Gln	Pro	Tyr	Ala	Ala	Tyr	Ala	Pro	Ser	Gly	Thr	Pro	Gln
145					150					155					160
Gly	Leu	Leu	Val	Tyr	Ala	Asn	Arg	Gly	Ala	Glu	Glu	Asp	Phe	Lys	Glu
				165					170					175	
Leu	Gln	Thr	Gln	Gly	Ile	Lys	Leu	Glu	Gly	Thr	Ile	Ala	Leu	Thr	Arg
			180					185					190		
Tyr	Gly	Gly	Val	Gly	Arg	Gly	Ala	Lys	Ala	Val	Asn	Ala	Ala	Lys	His
		195					200					205			
Gly	Val	Ala	Gly	Val	Leu	Val	Tyr	Thr	Asp	Pro	Ala	Asp	Ile	Asn	Asp
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Gly	Leu	Ser	Ser	Pro	Asp	Glu	Thr	Phe	Pro	Asn	Ser	Trp	Tyr	Leu	Pro
225					230					235					240
Pro	Ser	Gly	Val	Glu	Arg	Gly	Ser	Tyr	Tyr	Glu	Tyr	Phe	Gly	Asp	Pro
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Leu	Thr	Pro	Tyr	Leu	Pro	Ala	Val	Pro	Ser	Ser	Phe	Arg	Val	Asp	Leu
			260					265					270		
Ala	Asn	Val	Ser	Gly	Phe	Pro	Pro	Ile	Pro	Thr	Gln	Pro	Ile	Gly	Phe
		275					280					285			
Gln	Asp	Ala	Arg	Asp	Leu	Leu	Cys	Asn	Leu	Asn	Gly	Thr	Leu	Ala	Pro
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Ala	Thr	Trp	Gln	Gly	Ala	Leu	Gly	Cys	His	Tyr	Arg	Leu	Gly	Pro	Gly
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Phe	Arg	Pro	Asp	Gly	Asp	Phe	Pro	Ala	Asp	Ser	Gln	Val	Asn	Val	Ser
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Val	Tyr	Asn	Arg	Leu	Glu	Leu	Arg	Asn	Ser	Ser	Asn	Val	Leu	Gly	Ile
			340					345					350		
Ile	Arg	Gly	Ala	Val	Glu	Pro	Asp	Arg	Tyr	Val	Leu	Tyr	Gly	Asn	His
		355					360					365			
Arg	Asp	Ser	Trp	Val	His	Gly	Ala	Val	Asp	Pro	Ser	Ser	Gly	Thr	Ala
	370					375					380				
Val	Leu	Leu	Glu	Leu	Ser	Arg	Val	Leu	Gly	Thr	Leu	Leu	Lys	Lys	Gly
385					390					395					400
Thr	Trp	Arg	Pro	Arg	Arg	Ser	Ile	Val	Phe	Ala	Ser	Trp	Gly	Ala	Glu
				405					410					415	

Glu Phe Gly Leu Ile Gly Ser Thr Glu Phe Thr Glu Glu Phe Phe Asn	420	425	430
Lys Leu Gln Glu Arg Thr Val Ala Tyr Ile Asn Val Asp Ile Ser Val	435	440	445
Phe Ala Asn Ala Thr Leu Arg Val Gln Gly Thr Pro Pro Val Gln Ser	450	455	460
Val Val Phe Ser Ala Thr Lys Glu Ile Arg Ser Pro Gly Pro Gly Asp	465	470	475
Leu Ser Ile Tyr Asp Asn Trp Ile Arg Tyr Phe Asn Arg Ser Ser Pro	485	490	495
Val Tyr Gly Leu Val Pro Ser Leu Gly Ser Leu Gly Ala Gly Ser Asp	500	505	510
Tyr Ala Pro Phe Val His Phe Leu Gly Ile Ser Ser Met Asp Ile Ala	515	520	525
Tyr Thr Tyr Asp Arg Ser Lys Thr Ser Ala Arg Ile Tyr Pro Thr Tyr	530	535	540
His Thr Ala Phe Asp Thr Phe Asp Tyr Val Asp Lys Phe Leu Asp Pro	545	550	555
Gly Phe Ser Ser His Gln Ala Val Ala Arg Thr Ala Gly Ser Val Ile	565	570	575
Leu Arg Leu Ser Asp Ser Phe Phe Leu Pro Leu Lys Val Ser Asp Tyr	580	585	590
Ser Glu Thr Leu Arg Ser Phe Leu Gln Ala Ala Gln Gln Asp Leu Gly	595	600	605
Ala Leu Leu Glu Gln His Ser Ile Ser Leu Gly Pro Leu Val Thr Ala	610	615	620
Val Glu Lys Phe Glu Ala Glu Ala Ala Leu Gly Gln Arg Ile Ser	625	630	635
Thr Leu Gln Lys Gly Ser Pro Asp Pro Leu Gln Val Arg Met Leu Asn	645	650	655
Asp Gln Leu Met Leu Leu Glu Arg Thr Phe Leu Asn Pro Arg Ala Phe	660	665	670
Pro Glu Glu Arg Tyr Tyr Ser His Val Leu Trp Ala Pro Ser His Gly	675	680	685
Leu Arg Ser His Ile Pro Gly Leu Ser Asn Ala Cys Ser Arg Ala Arg	690	695	700
Asp Thr Ala Ser Gly Ser Glu Ala Trp Ala Glu Val Gln Arg Gln Leu	705	710	715
Ser Ile Val Val Thr Ala Leu Glu Gly Ala Ala Ala Thr Leu Arg Pro	725	730	735

Val Ala Asp Leu  
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<210> 36

<211> 745

<212> PRT

<213> Rattus rattus

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			20					25					30			
Glu	Pro	Leu	Ala	Ser	Ser	Val	Ser	Asp	Ser	Gln	Asp	Leu	Asp	Leu	Ala	
		35					40					45				
Ile	Leu	Asp	Ser	Val	Met	Gly	Gln	Leu	Asp	Ala	Ser	Arg	Ile	Arg	Glu	
	50					55					60					
Asn	Leu	Arg	Glu	Leu	Ser	Lys	Glu	Pro	His	Val	Ala	Thr	Ser	Ala	Arg	
65					70					75					80	
Asp	Glu	Ala	Leu	Val	Gln	Leu	Leu	Leu	Gly	Arg	Trp	Lys	Asp	Ser	Ala	
				85					90					95		
Ser	Gly	Leu	Asp	Thr	Ala	Lys	Thr	Tyr	Glu	Tyr	Thr	Val	Leu	Leu	Ser	
			100					105					110			
Phe	Pro	Ser	Thr	Glu	Gln	Pro	Asn	Ser	Val	Glu	Val	Val	Gly	Pro	Asn	
		115					120						125			
Gly	Thr	Val	Phe	His	Ser	Phe	Gln	Pro	Phe	Glu	Lys	Asn	Leu	Thr	Gly	
	130					135					140					
Glu	Gln	Ala	Glu	Pro	Asn	Val	Leu	Gln	Pro	Tyr	Ala	Ala	Tyr	Ala	Pro	
145					150					155					160	
Pro	Gly	Thr	Pro	Lys	Gly	Pro	Leu	Val	Tyr	Ala	Asn	Arg	Gly	Ser	Glu	
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Asp	Asp	Phe	Lys	Lys	Leu	Glu	Ala	Glu	Gly	Ile	Asn	Leu	Lys	Gly	Thr	
			180					185					190			
Ile	Ala	Leu	Thr	Arg	Tyr	Gly	Ser	Val	Gly	Arg	Gly	Ala	Lys	Ala	Ile	
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Asn	Ala	Ala	Arg	His	Gly	Val	Val	Gly	Val	Leu	Val	Tyr	Thr	Asp	Pro	
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Gly	Asp	Ile	Asn	Asp	Gly	Lys	Ser	Leu	Pro	Asn	Glu	Thr	Phe	Pro	Asn	

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Ser Trp Gly Leu	Pro Pro Ser Gly Val	Glu Arg Gly Ser Tyr Tyr Glu				
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Tyr Phe Gly Asp	Pro Leu Thr Pro Tyr Leu Pro Ala His Pro Val Ser					
	260	265			270	
Phe Arg Leu Asp	Pro His Asn Ile Ser Gly Phe Pro Pro Ile Pro Thr					
	275	280			285	
Gln Pro Ile Gly Phe Glu Asp Ala Lys Asn Leu Leu Cys Asn Leu Asn						
	290	295			300	
Gly Thr Ser Ala Pro Asp Ser Trp Gln Gly Ala Leu Gly Cys Glu Tyr						
	305	310			315	320
Lys Leu Gly Pro Gly Phe Glu Pro Asn Gly Asn Phe Pro Ala Gly Ser						
	325	330			335	
Glu Val Lys Val Ser Val Tyr Asn Arg Leu Glu Leu Arg Asn Ser Ser						
	340	345			350	
Asn Val Leu Gly Ile Ile Gln Gly Ala Val Glu Pro Asp Arg Tyr Val						
	355	360			365	
Ile Tyr Gly Asn His Arg Asp Ser Trp Val His Gly Ala Val Asp Pro						
	370	375			380	
Ser Ser Gly Thr Ala Val Leu Leu Glu Ile Ser Arg Val Leu Gly Thr						
	385	390			395	400
Leu Leu Lys Lys Gly Thr Trp Arg Pro Arg Arg Ser Ile Ile Phe Ala						
	405	410			415	
Ser Trp Gly Ala Glu Glu Phe Gly Leu Ile Gly Ser Thr Glu Phe Thr						
	420	425			430	
Glu Glu Phe Leu Ser Lys Leu Gln Glu Arg Thr Val Thr Tyr Ile Asn						
	435	440			445	
Val Asp Ile Ser Val Phe Ser Asn Ala Thr Leu Arg Ala Gln Gly Thr						
	450	455			460	
Pro Pro Val Gln Ser Val Ile Phe Ser Ala Thr Lys Glu Ile Ser Ala						
	465	470			475	480
Pro Gly Ser Ser Gly Leu Ser Ile Tyr Asp Asn Trp Ile Arg Tyr Thr						
	485	490			495	
Asn Arg Ser Ser Pro Val Tyr Gly Leu Val Pro Ser Met Gly Thr Leu						
	500	505			510	
Gly Ala Gly Ser Asp Tyr Ala Ser Phe Ile His Phe Leu Gly Ile Thr						
	515	520			525	
Ser Met Asp Leu Ala Tyr Thr Tyr Asp Arg Ser Lys Thr Ser Ala Arg						
	530	535			540	

Ile Tyr Pro Thr Tyr His Thr Ala Phe Asp Thr Phe Asp Tyr Val Glu  
545 550 555 560

Lys Phe Leu Asp Pro Gly Phe Ser Ser His Gln Ala Val Ala Arg Thr  
565 570 575

Ala Gly Ser Val Leu Leu Arg Leu Ser Asp Ser Leu Phe Leu Pro Leu  
580 585 590

Asn Val Ser Asp Tyr Ser Glu Thr Leu Gln Ser Phe Leu Gln Ala Ala  
595 600 605

Gln Glu Asn Leu Gly Ala Leu Leu Glu Ser His Asn Ile Ser Leu Gly  
610 615 620

Pro Leu Val Thr Ala Val Glu Lys Phe Lys Ala Ala Ala Ala Ala Leu  
625 630 635 640

Asn Gln His Ile Leu Thr Leu Gln Lys Ser Ser Pro Asp Pro Leu Gln  
645 650 655

Val Arg Met Val Asn Asp Gln Leu Met Leu Leu Glu Arg Ala Phe Leu  
660 665 670

Asn Pro Arg Ala Phe Pro Glu Glu Arg Tyr Tyr Ser His Val Leu Trp  
675 680 685

Ala Pro Asn Thr Ala Ser Val Ala Thr Phe Pro Gly Leu Ala Asn Ala  
690 695 700

Tyr Ala Arg Ala Gln Glu Ile Asn Ser Gly Ala Glu Ala Trp Ala Glu  
705 710 715 720

Val Glu Arg Gln Leu Ser Ile Ala Val Met Ala Leu Glu Gly Ala Ala  
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Ala Thr Leu Gln Pro Val Thr Asp Leu  
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<210> 37

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<212> PRT

<213> Homo sapiens

<400> 37

Gly Leu Leu Val Tyr Ala Asn Arg Gly Ala Glu Glu Asp Phe Lys Glu  
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Leu Gln Thr Gln Gly Ile Lys Leu Glu Gly Thr Ile Ala Leu Thr Arg  
20 25 30

Tyr Gly Gly Val Gly Arg Gly Ala Lys  
35 40



<210> 38

<211> 35

<212> PRT

<213> Homo sapiens

<400> 38

Cys Asn Leu Asn Gly Thr Leu Ala Pro Ala Thr Trp Gln Gly Ala Leu  
1 5 10 15

Gly Cys His Tyr Arg Leu Gly Pro Gly Phe Arg Pro Asp Gly Asp Phe  
20 25 30

Pro Ala Asp  
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<210> 39

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<213> Homo sapiens

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Arg Leu Gln Gln Pro Ser Gly Cys Gly Pro Asp Ser Gly Glu Cys Asp  
1 5 10 15

Ser Pro Ala Gln  
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<210> 40

<211> 41

<212> PRT

<213> Homo sapiens

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1 5 10 15

Pro Leu Thr Met Trp Thr Ser Phe Trp Thr Arg Ala Ser Ala Ala Ile  
20 25 30

Arg Leu Trp Pro Gly Gln Arg Gly Val

35

40

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<213> Homo sapiens

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<213> Homo sapiens

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 1 5 10 15  
 Gly Cys Arg Cys Pro His Pro Ala Leu Pro Leu Pro Pro Pro Ser Pro  
 20 25 30  
 Ala Pro Pro Ala His Leu Ser Leu Ser Ser Gly Ser Leu Pro Leu Phe  
 35 40 45  
 Leu Trp Pro  
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<210> 43

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gtgaggaggg agacaagggg catcctgaga ccaggacagg agaggctgaa gactgagccc 60



82

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Asp

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60

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74

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caaccacttc tgtgcgctat catcaaagta tacgggtggaa actggtatcc gaaatgaaag 180  
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cagccaagtt ggttcattat gatgtcctct tatcttacct caatgagaca aatgccaaact 360  
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<210> 48

<211> 740

<212> PRT

<213> Homo sapiens

<400> 48

Met	Ala	Glu	Ser	Arg	Gly	Arg	Leu	Tyr	Leu	Trp	Met	Cys	Leu	Ala	Ala	1	5	10	15
Ala	Leu	Ala	Ser	Phe	Leu	Met	Gly	Phe	Met	Val	Gly	Trp	Phe	Ile	Lys	20	25	30	
Pro	Leu	Lys	Glu	Thr	Thr	Thr	Ser	Val	Arg	Tyr	His	Gln	Ser	Ile	Arg	35	40	45	
Trp	Lys	Leu	Val	Ser	Glu	Met	Lys	Ala	Glu	Asn	Ile	Lys	Ser	Phe	Leu	50	55	60	
Arg	Ser	Phe	Thr	Lys	Leu	Pro	His	Leu	Ala	Gly	Thr	Glu	Gln	Asn	Phe	65	70	75	80
Leu	Leu	Ala	Lys	Lys	Ile	Gln	Thr	Gln	Trp	Lys	Lys	Phe	Gly	Leu	Asp	85	90	95	
Ser	Ala	Lys	Leu	Val	His	Tyr	Asp	Val	Leu	Leu	Ser	Tyr	Pro	Asn	Glu	100	105	110	
Thr	Asn	Ala	Asn	Tyr	Ile	Ser	Ile	Val	Asp	Glu	His	Glu	Thr	Glu	Ile	115	120	125	
Phe	Lys	Thr	Ser	Tyr	Leu	Glu	Pro	Pro	Pro	Asp	Gly	Tyr	Glu	Asn	Val	130	135	140	
Thr	Asn	Ile	Val	Pro	Pro	Tyr	Asn	Ala	Phe	Ser	Ala	Gln	Gly	Met	Pro	145	150	155	160
Glu	Gly	Asp	Leu	Val	Tyr	Val	Asn	Tyr	Ala	Arg	Thr	Glu	Asp	Phe	Phe	165	170	175	
Lys	Leu	Glu	Arg	Glu	Met	Gly	Ile	Asn	Cys	Thr	Gly	Lys	Ile	Val	Ile	180	185	190	
Ala	Arg	Tyr	Gly	Lys	Ile	Phe	Arg	Gly	Asn	Lys	Val	Lys	Asn	Ala	Met	195	200	205	
Leu	Ala	Gly	Ala	Ile	Gly	Ile	Ile	Leu	Tyr	Ser	Asp	Pro	Ala	Asp	Tyr	210	215	220	
Phe	Ala	Pro	Glu	Val	Gln	Pro	Tyr	Pro	Lys	Gly	Trp	Asn	Leu	Pro	Gly	225	230	235	240
Thr	Ala	Ala	Gln	Arg	Gly	Asn	Val	Leu	Asn	Leu	Asn	Gly	Ala	Gly	Asp	245	250	255	
Pro	Leu	Thr	Pro	Gly	Tyr	Pro	Ala	Lys	Glu	Tyr	Thr	Phe	Arg	Leu	Asp	260	265	270	
Val	Glu	Glu	Gly	Val	Gly	Ile	Pro	Arg	Ile	Pro	Val	His	Pro	Ile	Gly	275	280	285	

Tyr Asn Asp Ala Glu Ile Leu Leu Arg Tyr Leu Gly Gly Ile Ala Pro  
 290 295 300  
 Pro Asp Lys Ser Trp Lys Gly Ala Leu Asn Val Ser Tyr Ser Ile Gly  
 305 310 315 320  
 Pro Gly Phe Thr Gly Ser Asp Ser Phe Arg Lys Val Arg Met His Val  
 325 330 335  
 Tyr Asn Ile Asn Lys Ile Thr Arg Ile Tyr Asn Val Val Gly Thr Ile  
 340 345 350  
 Arg Gly Ser Val Glu Pro Asp Arg Tyr Val Ile Leu Gly Gly His Arg  
 355 360 365  
 Asp Ser Trp Val Phe Gly Ala Ile Asp Pro Thr Ser Gly Val Ala Val  
 370 375 380  
 Leu Gln Glu Ile Ala Arg Ser Phe Gly Lys Leu Met Ser Lys Gly Trp  
 385 390 395 400  
 Arg Pro Arg Arg Thr Ile Ile Phe Ala Ser Trp Asp Ala Glu Glu Phe  
 405 410 415  
 Gly Leu Leu Gly Ser Thr Glu Trp Ala Glu Glu Asn Val Lys Ile Leu  
 420 425 430  
 Gln Glu Arg Ser Ile Ala Tyr Ile Asn Ser Asp Ser Ser Ile Glu Gly  
 435 440 445  
 Asn Tyr Thr Leu Arg Val Asp Cys Thr Pro Leu Leu Tyr Gln Leu Val  
 450 455 460  
 Tyr Lys Leu Thr Lys Glu Ile Pro Ser Pro Asp Asp Gly Phe Glu Ser  
 465 470 475 480  
 Lys Ser Leu Tyr Glu Ser Trp Leu Glu Lys Asp Pro Ser Pro Glu Asn  
 485 490 495  
 Lys Asn Leu Pro Arg Ile Asn Lys Leu Gly Ser Gly Ser Asp Phe Glu  
 500 505 510  
 Ala Tyr Phe Gln Arg Leu Gly Ile Ala Ser Gly Arg Ala Arg Tyr Thr  
 515 520 525  
 Lys Asn Lys Lys Thr Asp Lys Tyr Ser Ser Tyr Pro Val Tyr His Thr  
 530 535 540  
 Ile Tyr Glu Thr Phe Glu Leu Val Glu Lys Phe Tyr Asp Pro Thr Phe  
 545 550 555 560  
 Lys Lys Gln Leu Ser Val Ala Gln Leu Arg Gly Ala Leu Val Tyr Glu  
 565 570 575  
 Leu Val Asp Ser Lys Ile Ile Pro Phe Asn Ile Gln Asp Tyr Ala Glu  
 580 585 590  
 Ala Leu Lys Asn Tyr Ala Ala Ser Ile Tyr Asn Leu Ser Lys Lys His

595	600	605
Asp Gln Gln Leu Thr Asp His Gly Val Ser Phe 610	615	Asp Ser Leu Phe Ser 620
Ala Val Lys Asn Phe Ser Glu Ala Ala Ser Asp Phe His Lys Arg Leu 625	630	635
Ile Gln Val Asp Leu Asn Asn Pro Ile Ala Val Arg Met Met Asn Asp 645	650	655
Gln Leu Met Leu Leu Glu Arg Ala Phe Ile Asp Pro Leu Gly Leu Pro 660	665	670
Gly Lys Leu Phe Tyr Arg His Ile Ile Phe Ala Pro Ser Ser His Asn 675	680	685
Lys Tyr Ala Gly Glu Ser Phe Pro Gly Ile Tyr Asp Ala Ile Phe Asp 690	695	700
Ile Glu Asn Lys Ala Asn Ser Arg Leu Ala Trp Lys Glu Val Lys Lys 705	710	715
His Ile Ser Ile Ala Ala Phe Thr Ile Gln Ala Ala Ala Gly Thr Leu 725	730	735
Lys Glu Val Leu 740		

<210> 49

<211> 1860

<212> DNA

<213> Homo sapiens

<400> 49

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aaaaatgaaa ttccttatct tcgcattttt cggtggtggt caccttttat ccctgtgctc	180
tgggaaagct atatgcaaga atggcatctc taagaggact tttgaagaaa taaaagaaga	240
aatagccagc tgtggagatg ttgctaaagc aatcatcaac ctagctgttt atggtaaagc	300
ccagaacaga tcctatgagc gattggcact tctggttgat actgttggac ccagactgag	360
tggctccaag aacctagaaa aagccatcca aattatgtac caaacctgc agcaagatgg	420
gctggagaaa gttcacctgg agccagtgag aatacccccac tgggagaggg gagaagaatc	480
agctgtgatg ctggagccaa gaattcataa gatagccatc ctgggtcttg gcagcagcat	540
tgggactcct ccagaaggca ttacagcaga agttctggtg gtgacctctt tcgatgaact	600



gcagagaagg gectcagaag caagagggaa gattgttgglt tataaccaac cttacatcaa 660  
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<210> 50

<211> 472

<212> PRT

<213> Homo sapiens

<400> 50

Met Lys Phe Leu Ile Phe Ala Phe Phe Gly Gly Val His Leu Leu Ser  
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Leu	Cys	Ser	Gly	Lys	Ala	Ile	Cys	Lys	Asn	Gly	Ile	Ser	Lys	Arg	Thr	20	25	30
Phe	Glu	Glu	Ile	Lys	Glu	Glu	Ile	Ala	Ser	Cys	Gly	Asp	Val	Ala	Lys	35	40	45
Ala	Ile	Ile	Asn	Leu	Ala	Val	Tyr	Gly	Lys	Ala	Gln	Asn	Arg	Ser	Tyr	50	55	60
Glu	Arg	Leu	Ala	Leu	Leu	Val	Asp	Thr	Val	Gly	Pro	Arg	Leu	Ser	Gly	65	70	75
Ser	Lys	Asn	Leu	Glu	Lys	Ala	Ile	Gln	Ile	Met	Tyr	Gln	Asn	Leu	Gln	85	90	95
Gln	Asp	Gly	Leu	Glu	Lys	Val	His	Leu	Glu	Pro	Val	Arg	Ile	Pro	His	100	105	110
Trp	Glu	Arg	Gly	Glu	Glu	Ser	Ala	Val	Met	Leu	Glu	Pro	Arg	Ile	His	115	120	125
Lys	Ile	Ala	Ile	Leu	Gly	Leu	Gly	Ser	Ser	Ile	Gly	Thr	Pro	Pro	Glu	130	135	140
Gly	Ile	Thr	Ala	Glu	Val	Leu	Val	Val	Thr	Ser	Phe	Asp	Glu	Leu	Gln	145	150	155
Arg	Arg	Ala	Ser	Glu	Ala	Arg	Gly	Lys	Ile	Val	Val	Tyr	Asn	Gln	Pro	165	170	175
Tyr	Ile	Asn	Tyr	Ser	Arg	Thr	Val	Gln	Tyr	Arg	Thr	Gln	Gly	Ala	Val	180	185	190
Glu	Ala	Ala	Lys	Val	Gly	Ala	Leu	Ala	Ser	Leu	Ile	Arg	Ser	Val	Ala	195	200	205
Ser	Phe	Ser	Ile	Tyr	Ser	Pro	His	Thr	Gly	Ile	Gln	Glu	Tyr	Gln	Asp	210	215	220
Gly	Val	Pro	Lys	Ile	Pro	Thr	Ala	Cys	Ile	Thr	Val	Glu	Asp	Ala	Glu	225	230	235
Met	Met	Ser	Arg	Met	Ala	Ser	His	Gly	Ile	Lys	Ile	Val	Ile	Gln	Leu	245	250	255
Lys	Met	Gly	Ala	Lys	Thr	Tyr	Pro	Asp	Thr	Asp	Ser	Phe	Asn	Thr	Val	260	265	270
Ala	Glu	Ile	Thr	Gly	Ser	Lys	Tyr	Pro	Glu	Gln	Val	Val	Leu	Val	Ser	275	280	285
Gly	His	Leu	Asp	Ser	Trp	Asp	Val	Gly	Gln	Gly	Ala	Met	Asp	Asp	Gly	290	295	300
Gly	Gly	Ala	Phe	Ile	Ser	Trp	Glu	Ala	Leu	Ser	Leu	Ile	Lys	Asp	Leu	305	310	315
Gly	Leu	Arg	Pro	Lys	Arg	Thr	Leu	Arg	Leu	Val	Leu	Trp	Thr	Ala	Glu	325	330	335

Glu Gln Gly Gly Val Gly Ala Phe Gln Tyr Tyr Gln Leu His Lys Val  
 340 345 350

Asn Ile Ser Asn Tyr Ser Leu Val Met Glu Ser Asp Ala Gly Thr Phe  
 355 360 365

Leu Pro Thr Gly Leu Gln Phe Thr Gly Ser Glu Lys Ala Arg Ala Ile  
 370 375 380

Met Glu Glu Val Met Ser Leu Leu Gln Pro Leu Asn Ile Thr Gln Val  
 385 390 395 400

Leu Ser His Gly Glu Gly Thr Asp Ile Asn Phe Trp Ile Gln Ala Gly  
 405 410 415

Val Pro Gly Ala Ser Leu Leu Asp Asp Leu Tyr Lys Tyr Phe Phe Phe  
 420 425 430

His His Ser His Gly Asp Thr Met Thr Val Met Asp Pro Lys Gln Met  
 435 440 445

Asn Val Ala Ala Ala Val Trp Ala Val Val Ser Tyr Val Val Ala Asp  
 450 455 460

Met Glu Glu Met Leu Pro Arg Ser  
 465 470

<210> 51

<211> 750

<212> PRT

<213> Homo sapiens

<400> 51

Met Trp Asn Leu Leu His Glu Thr Asp Ser Ala Val Ala Thr Ala Arg  
 1 5 10 15

Arg Pro Arg Trp Leu Cys Ala Gly Ala Leu Val Leu Ala Gly Gly Phe  
 20 25 30

Phe Leu Leu Gly Phe Leu Phe Gly Trp Phe Ile Lys Ser Ser Asn Glu  
 35 40 45

Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala Phe Leu Asp Glu  
 50 55 60

Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu His Asn Phe Thr Gln Ile  
 65 70 75 80

Pro His Leu Ala Gly Thr Glu Gln Asn Phe Gln Leu Ala Lys Gln Ile  
 85 90 95

Gln Ser Gln Trp Lys Glu Phe Gly Leu Asp Ser Val Glu Leu Ala His

100						105						110					
Tyr	Asp	Val	Leu	Leu	Ser	Tyr	Pro	Asn	Lys	Thr	His	Pro	Asn	Tyr	Ile		
		115					120						125				
Ser	Ile	Ile	Asn	Glu	Asp	Gly	Asn	Glu	Ile	Phe	Asn	Thr	Ser	Leu	Phe		
	130					135					140						
Glu	Pro	Pro	Pro	Pro	Gly	Tyr	Glu	Asn	Val	Ser	Asp	Ile	Val	Pro	Pro		
145					150					155					160		
Phe	Ser	Ala	Phe	Ser	Pro	Gln	Gly	Met	Pro	Glu	Gly	Asp	Leu	Val	Tyr		
				165					170				175				
Val	Asn	Tyr	Ala	Arg	Thr	Glu	Asp	Phe	Phe	Lys	Leu	Glu	Arg	Asp	Met		
			180					185					190				
Lys	Ile	Asn	Cys	Ser	Gly	Lys	Ile	Val	Ile	Ala	Arg	Tyr	Gly	Lys	Val		
		195					200					205					
Phe	Arg	Gly	Asn	Lys	Val	Lys	Asn	Ala	Gln	Leu	Ala	Gly	Ala	Lys	Gly		
	210					215					220						
Val	Ile	Leu	Tyr	Ser	Asp	Pro	Ala	Asp	Tyr	Phe	Ala	Pro	Gly	Val	Lys		
225					230					235					240		
Ser	Tyr	Pro	Asp	Gly	Trp	Asn	Leu	Pro	Gly	Gly	Gly	Val	Gln	Arg	Gly		
				245					250					255			
Asn	Ile	Leu	Asn	Leu	Asn	Gly	Ala	Gly	Asp	Pro	Leu	Thr	Pro	Gly	Tyr		
			260					265					270				
Pro	Ala	Asn	Glu	Tyr	Ala	Tyr	Arg	Arg	Gly	Ile	Ala	Glu	Ala	Val	Gly		
		275					280					285					
Leu	Pro	Ser	Ile	Pro	Val	His	Pro	Ile	Gly	Tyr	Tyr	Asp	Ala	Gln	Lys		
	290					295					300						
Leu	Leu	Glu	Lys	Met	Gly	Gly	Ser	Ala	Pro	Pro	Asp	Ser	Ser	Trp	Arg		
305					310					315					320		
Gly	Ser	Leu	Lys	Val	Pro	Tyr	Asn	Val	Gly	Pro	Gly	Phe	Thr	Gly	Asn		
				325					330					335			
Phe	Ser	Thr	Gln	Lys	Val	Lys	Met	His	Ile	His	Ser	Thr	Asn	Glu	Val		
			340					345					350				
Thr	Arg	Ile	Tyr	Asn	Val	Ile	Gly	Thr	Leu	Arg	Gly	Ala	Val	Glu	Pro		
		355					360					365					
Asp	Arg	Tyr	Val	Ile	Leu	Gly	Gly	His	Arg	Asp	Ser	Trp	Val	Phe	Gly		
	370					375					380						
Gly	Ile	Asp	Pro	Gln	Ser	Gly	Ala	Ala	Val	Val	His	Glu	Ile	Val	Arg		
385					390					395					400		
Ser	Phe	Gly	Thr	Leu	Lys	Lys	Glu	Gly	Trp	Arg	Pro	Arg	Arg	Thr	Ile		
				405					410					415			

Leu	Phe	Ala	Ser	Trp	Asp	Ala	Glu	Glu	Phe	Gly	Leu	Leu	Gly	Ser	Thr	420	425	430
Glu	Trp	Ala	Glu	Glu	Asn	Ser	Arg	Leu	Leu	Gln	Glu	Arg	Gly	Val	Ala	435	440	445
Tyr	Ile	Asn	Ala	Asp	Ser	Ser	Ile	Glu	Gly	Asn	Tyr	Thr	Leu	Arg	Val	450	455	460
Asp	Cys	Thr	Pro	Leu	Met	Tyr	Ser	Leu	Val	His	Asn	Leu	Thr	Lys	Glu	465	470	475
Leu	Lys	Ser	Pro	Asp	Glu	Gly	Phe	Glu	Gly	Lys	Ser	Leu	Tyr	Glu	Ser	485	490	495
Trp	Thr	Lys	Lys	Ser	Pro	Ser	Pro	Glu	Phe	Ser	Gly	Met	Pro	Arg	Ile	500	505	510
Ser	Lys	Leu	Gly	Ser	Gly	Asn	Asp	Phe	Glu	Val	Phe	Phe	Gln	Arg	Leu	515	520	525
Gly	Ile	Ala	Ser	Gly	Arg	Ala	Arg	Tyr	Thr	Lys	Asn	Trp	Glu	Thr	Asn	530	535	540
Lys	Phe	Ser	Gly	Tyr	Pro	Leu	Tyr	His	Ser	Val	Tyr	Glu	Thr	Tyr	Glu	545	550	555
Leu	Val	Glu	Lys	Phe	Tyr	Asp	Pro	Met	Phe	Lys	Tyr	His	Leu	Thr	Val	565	570	575
Ala	Gln	Val	Arg	Gly	Gly	Met	Val	Phe	Glu	Leu	Ala	Asn	Ser	Ile	Val	580	585	590
Leu	Pro	Phe	Asp	Cys	Arg	Asp	Tyr	Ala	Val	Val	Leu	Arg	Lys	Tyr	Ala	595	600	605
Asp	Lys	Ile	Tyr	Ser	Ile	Ser	Met	Lys	His	Pro	Gln	Glu	Met	Lys	Thr	610	615	620
Tyr	Ser	Val	Ser	Phe	Asp	Ser	Leu	Phe	Ser	Ala	Val	Lys	Asn	Phe	Thr	625	630	635
Glu	Ile	Ala	Ser	Lys	Phe	Ser	Glu	Arg	Leu	Gln	Asp	Phe	Asp	Lys	Ser	645	650	655
Asn	Pro	Ile	Val	Leu	Arg	Met	Met	Asn	Asp	Gln	Leu	Met	Phe	Leu	Glu	660	665	670
Arg	Ala	Phe	Ile	Asp	Pro	Leu	Gly	Leu	Pro	Asp	Arg	Pro	Phe	Tyr	Arg	675	680	685
His	Val	Ile	Tyr	Ala	Pro	Ser	Ser	His	Asn	Lys	Tyr	Ala	Gly	Glu	Ser	690	695	700
Phe	Pro	Gly	Ile	Tyr	Asp	Ala	Leu	Phe	Asp	Ile	Glu	Ser	Lys	Val	Asp	705	710	715
Pro	Ser	Lys	Ala	Trp	Gly	Glu	Val	Lys	Arg	Gln	Ile	Tyr	Val	Ala	Ala	725	730	735

Phe Thr Val Gln Ala Ala Ala Glu Thr Leu Ser Glu Val Ala  
740 745 750

<210> 52

<211> 265

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 52

Thr Lys His Thr Val Ala Thr Val Gly Val Pro Tyr Lys Val Gly Lys  
1 5 10 15  
Lys Leu Ile Ala Asn Ile Ala Leu Asn Ile Asp Tyr Ser Leu Tyr Phe  
20 25 30  
Ala Met Asp Ser Tyr Val Glu Phe Ile Lys Thr Gln Asn Ile Ile Ala  
35 40 45  
Asp Thr Lys His Gly Asp Pro Asp Asn Ile Val Ala Leu Gly Ala His  
50 55 60  
Ser Asp Ser Val Glu Glu Gly Pro Gly Ile Asn Asp Asp Gly Ser Gly  
65 70 75 80  
Thr Ile Ser Leu Leu Asn Val Ala Lys Gln Leu Thr His Phe Lys Ile  
85 90 95  
Asn Asn Lys Val Arg Phe Ala Trp Trp Ala Ala Glu Glu Glu Gly Leu  
100 105 110  
Leu Gly Ser Asn Phe Tyr Ala Tyr Asn Leu Thr Lys Glu Glu Asn Ser  
115 120 125  
Lys Ile Arg Val Phe Met Asp Tyr Asp Met Met Ala Ser Pro Asn Tyr  
130 135 140  
Glu Tyr Glu Ile Tyr Asp Ala Asn Asn Lys Glu Asn Pro Lys Gly Ser  
145 150 155 160  
Glu Glu Leu Lys Asn Leu Tyr Val Asp Tyr Tyr Lys Ala His His Leu  
165 170 175  
Asn Tyr Thr Leu Val Pro Phe Asp Gly Arg Ser Asp Tyr Val Gly Phe  
180 185 190  
Ile Asn Asn Gly Ile Pro Ala Gly Gly Ile Ala Thr Gly Ala Glu Lys  
195 200 205  
Asn Asn Val Asn Asn Gly Lys Val Leu Asp Arg Cys Tyr His Gln Leu  
210 215 220  
Cys Asp Asp Val Ser Asn Leu Ser Trp Asp Ala Phe Ile Thr Asn Thr

225					230					235						240
Lys	Leu	Ile	Ala	His	Ser	Val	Ala	Thr	Tyr	Ala	Asp	Ser	Phe	Glu	Gly	
				245					250					255		
Phe	Pro	Lys	Arg	Glu	Thr	Gln	Lys	His								
			260					265								
<210>	53															
<211>	268															
<212>	PRT															
<213>	Vibrio cholerae															
<400>	53															
Gln	Ile	Thr	Asn	Thr	Ile	Arg	Ala	Leu	Ser	Ser	Phe	Asn	Asn	Arg	Phe	
1				5					10					15		
Tyr	Thr	Thr	Ala	Ser	Gly	Ala	Gln	Ala	Ser	Asp	Trp	Leu	Ala	Asn	Glu	
			20					25					30			
Trp	Arg	Ser	Leu	Ile	Ser	Ser	Leu	Pro	Gly	Ser	Arg	Ile	Glu	Gln	Ile	
		35					40					45				
Lys	His	Ser	Gly	Tyr	Asn	Gln	Lys	Ser	Val	Val	Leu	Thr	Ile	Gln	Gly	
	50					55					60					
Ser	Glu	Lys	Pro	Asp	Glu	Trp	Val	Ile	Val	Gly	Gly	His	Leu	Asp	Ser	
65					70					75					80	
Thr	Leu	Gly	Ser	His	Thr	Asn	Glu	Gln	Ser	Ile	Ala	Pro	Gly	Ala	Asp	
				85					90					95		
Asp	Asp	Ala	Ser	Gly	Ile	Ala	Ser	Leu	Ser	Glu	Ile	Ile	Arg	Val	Leu	
			100					105					110			
Arg	Asp	Asn	Asn	Phe	Arg	Pro	Lys	Arg	Ser	Ala	Ala	Leu	Met	Ala	Tyr	
		115					120					125				
Ala	Ala	Glu	Glu	Val	Gly	Leu	Arg	Gly	Ser	Gln	Asp	Pro	Ala	Asn	Gln	
	130					135					140					
Tyr	Lys	Ala	Gln	Gly	Lys	Lys	Val	Val	Ser	Val	Leu	Gln	Leu	Asp	Met	
145					150					155					160	
Thr	Asn	Tyr	Arg	Gly	Ser	Ala	Glu	Asp	Ile	Val	Phe	Ile	Thr	Asp	Tyr	
				165					170					175		
Thr	Asp	Ser	Asn	Leu	Thr	Gln	Phe	Leu	Thr	Thr	Leu	Ile	Asp	Glu	Tyr	
			180					185					190			
Leu	Pro	Glu	Leu	Thr	Tyr	Gly	Tyr	Asp	Arg	Cys	Gly	Tyr	Ala	Cys	Ser	
		195					200					205				

Asp His Ala Ser Trp His Lys Ala Gly Phe Ser Ala Ala Met Pro Phe  
210 215 220

Glu Ser Lys Phe Lys Asp Tyr Asn Pro Lys Ile His Thr Ser Gln Asp  
225 230 235 240

Thr Leu Ala Asn Ser Asp Pro Thr Gly Asn His Ala Val Thr Phe Thr  
245 250 255

Lys Leu Gly Leu Ala Tyr Val Ile Glu Met Ala Asn  
260 265

<210> 54

<211> 268

<212> PRT

<213> Aeromonas proteolytica

<400> 54

Gln Ile Thr Gly Thr Ile Ser Ser Leu Glu Ser Phe Thr Asn Arg Phe  
1 5 10 15

Tyr Thr Thr Thr Ser Gly Ala Gln Ala Ser Asp Trp Ile Ala Ser Glu  
20 25 30

Trp Gln Ala Leu Ser Ala Ser Leu Pro Asn Ala Ser Val Lys Gln Val  
35 40 45

Ser His Ser Gly Tyr Asn Gln Lys Ser Val Val Met Thr Ile Thr Gly  
50 55 60

Ser Glu Ala Pro Asp Glu Trp Ile Val Ile Gly Gly His Leu Asp Ser  
65 70 75 80

Thr Ile Gly Ser His Thr Asn Glu Gln Ser Val Ala Pro Gly Ala Asp  
85 90 95

Asp Asp Ala Ser Gly Ile Ala Ala Val Thr Glu Val Ile Arg Val Leu  
100 105 110

Ser Glu Asn Asn Phe Gln Pro Lys Arg Ser Ile Ala Phe Met Ala Tyr  
115 120 125

Ala Ala Glu Glu Val Gly Leu Arg Gly Ser Gln Asp Leu Ala Asn Gln  
130 135 140

Tyr Lys Ser Glu Gly Lys Asn Val Val Ser Ala Leu Gln Leu Asp Met  
145 150 155 160

Thr Asn Tyr Lys Gly Ser Ala Gln Asp Val Val Phe Ile Thr Asp Tyr  
165 170 175

Thr Asp Ser Asn Phe Thr Gln Tyr Leu Thr Gln Leu Met Asp Glu Tyr  
180 185 190



Leu Pro Ser Leu Thr Tyr Gly Phe Asp Thr Cys Gly Tyr Ala Cys Ser  
 195 200 205  
 Asp His Ala Ser Trp His Asn Ala Gly Tyr Pro Ala Ala Met Pro Phe  
 210 215 220  
 Glu Ser Lys Phe Asn Asp Tyr Asn Pro Arg Ile His Thr Thr Gln Asp  
 225 230 235 240  
 Thr Leu Ala Asn Ser Asp Pro Thr Gly Ser His Ala Lys Lys Phe Thr  
 245 250 255  
 Gln Leu Gly Leu Ala Tyr Ala Ile Glu Met Gly Ser  
 260 265

<210> 55

<211> 263

<212> PRT

<213> Streptomyces griseus

<400> 55

Asn Asn Gly Gly Asn Arg Ala His Gly Arg Pro Gly Tyr Lys Ala Ser  
 1 5 10 15  
 Val Asp Tyr Val Lys Ala Lys Leu Asp Ala Ala Gly Tyr Thr Thr Thr  
 20 25 30  
 Leu Gln Gln Phe Thr Ser Gly Gly Ala Thr Gly Tyr Asn Leu Ile Ala  
 35 40 45  
 Asn Trp Pro Gly Gly Asp Pro Asn Lys Val Leu Met Ala Gly Ala His  
 50 55 60  
 Leu Asp Ser Val Ser Ser Gly Ala Gly Ile Asn Asp Asn Gly Ser Gly  
 65 70 75 80  
 Ser Ala Ala Val Leu Glu Thr Ala Leu Ala Val Ser Arg Ala Gly Tyr  
 85 90 95  
 Gln Pro Asp Lys His Leu Arg Phe Ala Trp Trp Gly Ala Glu Glu Leu  
 100 105 110  
 Gly Leu Ile Gly Ser Lys Phe Tyr Val Asn Asn Leu Pro Ser Ala Asp  
 115 120 125  
 Arg Ser Lys Leu Ala Gly Tyr Leu Asn Phe Asp Met Ile Gly Ser Pro  
 130 135 140  
 Asn Pro Gly Tyr Phe Val Tyr Asp Asp Asp Pro Val Ile Glu Lys Thr  
 145 150 155 160  
 Phe Lys Asn Tyr Phe Ala Gly Leu Asn Val Pro Thr Glu Ile Glu Thr

	165		170		175
Glu Gly Asp Gly Arg Ser Asp His Ala Pro Phe Lys Asn Val Gly Val	180		185		190
Pro Val Gly Gly Leu Phe Thr Gly Ala Gly Tyr Thr Lys Ser Ala Ala	195		200		205
Gln Ala Gln Lys Trp Gly Gly Thr Ala Gly Gln Ala Phe Asp Arg Cys	210		215		220
Tyr His Ser Ser Cys Asp Ser Leu Ser Asn Ile Asn Asp Thr Ala Leu	225		230		235
Asp Arg Asn Ser Asp Ala Ala Ala His Ala Ile Trp Thr Leu Ser Ser	245		250		255
Gly Thr Gly Glu Pro Pro Thr	260				

<210> 56

<211> 282

<212> PRT

<213> Homo sapiens

<400> 56

Asp Ala Gln Lys Leu Leu Glu Lys Met Gly Gly Ser Ala Pro Pro Asp	1	5		10		15
Ser Ser Trp Arg Gly Ser Leu Lys Val Pro Tyr Asn Val Gly Pro Gly	20		25		30	
Phe Thr Gly Asn Phe Ser Thr Gln Lys Val Lys Met His Ile His Ser	35		40		45	
Thr Asn Glu Val Thr Arg Ile Tyr Asn Val Ile Gly Thr Leu Arg Gly	50		55		60	
Ala Val Glu Pro Asp Arg Tyr Val Ile Leu Gly Gly His Arg Asp Ser	65		70		75	80
Trp Val Phe Gly Gly Ile Asp Pro Gln Ser Gly Ala Ala Val Val His	85		90		95	
Glu Ile Val Arg Ser Phe Gly Thr Leu Lys Lys Glu Gly Trp Arg Pro	100		105		110	
Arg Arg Thr Ile Leu Phe Ala Ser Trp Asp Ala Glu Glu Phe Gly Leu	115		120		125	
Leu Gly Ser Thr Glu Trp Ala Glu Glu Asn Ser Arg Leu Leu Gln Glu	130		135		140	

Arg Gly Val Ala Tyr Ile Asn Ala Asp Ser Ser Ile Glu Gly Asn Tyr  
145 150 155 160

Thr Leu Arg Val Asp Cys Thr Pro Leu Met Tyr Ser Leu Val His Asn  
165 170 175

Leu Thr Lys Glu Leu Lys Ser Pro Asp Glu Gly Phe Glu Gly Lys Ser  
180 185 190

Leu Tyr Glu Ser Trp Thr Lys Lys Ser Pro Ser Pro Glu Phe Ser Gly  
195 200 205

Met Pro Arg Ile Ser Lys Leu Gly Ser Gly Asn Asp Phe Glu Val Phe  
210 215 220

Phe Gln Arg Leu Gly Ile Ala Ser Gly Arg Ala Arg Tyr Thr Lys Asn  
225 230 235 240

Trp Glu Thr Asn Lys Phe Ser Gly Tyr Pro Leu Tyr His Ser Val Tyr  
245 250 255

Glu Thr Tyr Glu Leu Val Glu Lys Phe Tyr Asp Pro Met Phe Lys Tyr  
260 265 270

His Leu Thr Val Ala Gln Val Arg Gly Gly  
275 280

<210> 57

<211> 282

<212> PRT

<213> Homo sapiens

<400> 57

Asp Ala Glu Ile Leu Leu Arg Tyr Leu Gly Gly Ile Ala Pro Pro Asp  
1 5 10 15

Lys Ser Trp Lys Gly Ala Leu Asn Val Ser Tyr Ser Ile Gly Pro Gly  
20 25 30

Phe Thr Gly Ser Asp Ser Phe Arg Lys Val Arg Met His Val Tyr Asn  
35 40 45

Ile Asn Lys Ile Thr Arg Ile Tyr Asn Val Val Gly Thr Ile Arg Gly  
50 55 60

Ser Val Glu Pro Asp Arg Tyr Val Ile Leu Gly Gly His Arg Asp Ser  
65 70 75 80

Trp Val Phe Gly Ala Ile Asp Pro Thr Ser Gly Val Ala Val Leu Gln  
85 90 95

Glu Ile Ala Arg Ser Phe Gly Lys Leu Met Ser Lys Gly Trp Arg Pro  
100 105 110

Arg Arg Thr Ile Ile Phe Ala Ser Trp Asp Ala Glu Glu Phe Gly Leu  
 115 120 125

Leu Gly Ser Thr Glu Trp Ala Glu Glu Asn Val Lys Ile Leu Gln Glu  
 130 135 140

Arg Ser Ile Ala Tyr Ile Asn Ser Asp Ser Ser Ile Glu Gly Asn Tyr  
 145 150 155 160

Thr Leu Arg Val Asp Cys Thr Pro Leu Leu Tyr Gln Leu Val Tyr Lys  
 165 170 175

Leu Thr Lys Glu Ile Pro Ser Pro Asp Asp Gly Phe Glu Ser Lys Ser  
 180 185 190

Leu Tyr Glu Ser Trp Leu Glu Lys Asp Pro Ser Pro Glu Asn Lys Asn  
 195 200 205

Leu Pro Arg Ile Asn Lys Leu Gly Ser Gly Ser Asp Phe Glu Ala Tyr  
 210 215 220

Phe Gln Arg Leu Gly Ile Ala Ser Gly Arg Ala Arg Tyr Thr Lys Asn  
 225 230 235 240

Lys Lys Thr Asp Lys Tyr Ser Ser Tyr Pro Val Tyr His Thr Ile Tyr  
 245 250 255

Glu Thr Phe Glu Leu Val Glu Lys Phe Tyr Asp Pro Thr Phe Lys Lys  
 260 265 270

Gln Leu Ser Val Ala Gln Leu Arg Gly Ala  
 275 280

<210> 58

<211> 283

<212> PRT

<213> Homo sapiens

<400> 58

Arg Asp Leu Leu Cys Asn Leu Asn Gly Thr Leu Ala Pro Ala Thr Trp  
 1 5 10 15

Gln Gly Ala Leu Gly Cys His Tyr Arg Leu Gly Pro Gly Phe Arg Pro  
 20 25 30

Asp Gly Asp Phe Pro Ala Asp Ser Gln Val Asn Val Ser Val Tyr Asn  
 35 40 45

Arg Leu Glu Leu Arg Asn Ser Ser Asn Val Leu Gly Ile Ile Arg Gly  
 50 55 60

Ala Val Glu Pro Asp Arg Tyr Val Leu Tyr Gly Asn His Arg Asp Ser

65		70		75		80
Trp Val His Gly	Ala Val Asp Pro Ser	Ser Gly Thr Ala Val	Leu Leu			
	85		90		95	
Glu Leu Ser Arg	Val Leu Gly Thr	Leu Leu Lys Lys	Gly Thr Trp Arg			
	100	105	110			
Pro Arg Arg Ser	Ile Val Phe Ala	Ser Trp Gly Ala	Glu Glu Phe Gly			
	115	120	125			
Leu Ile Gly Ser	Thr Glu Phe Thr	Glu Glu Phe Phe	Asn Lys Leu Gln			
	130	135	140			
Glu Arg Thr Val	Ala Tyr Ile Asn	Val Asp Ile Ser	Val Phe Ala Asn			
	145	150	155			160
Ala Thr Leu Arg	Val Gln Gly Thr	Pro Pro Val Gln	Ser Val Val Phe			
	165	170	175			
Ser Ala Thr Lys	Glu Ile Arg Ser	Pro Gly Pro Gly	Asp Leu Ser Ile			
	180	185	190			
Tyr Asp Asn Trp	Ile Arg Tyr Phe	Asn Arg Ser Ser	Pro Val Tyr Gly			
	195	200	205			
Leu Val Pro Ser	Leu Gly Ser Leu	Gly Ala Gly Ser	Asp Tyr Ala Pro			
	210	215	220			
Phe Val His Phe	Leu Gly Ile Ser	Ser Met Asp Ile	Ala Tyr Thr Tyr			
	225	230	235			240
Asp Arg Ser Lys	Thr Ser Ala Arg	Ile Tyr Pro Thr	Tyr His Thr Ala			
	245	250	255			
Phe Asp Thr Phe	Asp Tyr Val Asp	Lys Phe Leu Asp	Pro Gly Phe Ser			
	260	265	270			
Ser His Gln Ala	Val Ala Arg Thr	Ala Gly Ser				
	275	280				

<210> 59

<211> 259

<212> PRT

<213> Homo sapiens

<400> 59

Ser Pro His Thr	Gly Ile Gln Glu	Tyr Gln Asp Gly	Val Pro Lys Ile
1	5	10	15
Pro Thr Ala Cys	Ile Thr Val Glu	Asp Ala Glu Met	Met Ser Arg Met
	20	25	30

Ala	Ser	His	Gly	Ile	Lys	Ile	Val	Ile	Gln	Leu	Lys	Met	Gly	Ala	Lys
35						40						45			
Thr	Tyr	Pro	Asp	Thr	Asp	Ser	Phe	Asn	Thr	Val	Ala	Glu	Ile	Thr	Gly
50						55						60			
Ser	Lys	Tyr	Pro	Glu	Gln	Val	Val	Leu	Val	Ser	Gly	His	Leu	Asp	Ser
65						70						75			
Trp	Asp	Val	Gly	Gln	Gly	Ala	Met	Asp	Asp	Gly	Gly	Gly	Ala	Phe	Ile
						85						90			
Ser	Trp	Glu	Ala	Leu	Ser	Leu	Ile	Lys	Asp	Leu	Gly	Leu	Arg	Pro	Lys
						100						105			
Arg	Thr	Leu	Arg	Leu	Val	Leu	Trp	Thr	Ala	Glu	Glu	Gln	Gly	Gly	Val
						115						120			
Gly	Ala	Phe	Gln	Tyr	Tyr	Gln	Leu	His	Lys	Val	Asn	Ile	Ser	Asn	Tyr
						130						135			
Ser	Leu	Val	Met	Glu	Ser	Asp	Ala	Gly	Thr	Phe	Leu	Pro	Thr	Gly	Leu
145						150						155			
Gln	Phe	Thr	Gly	Ser	Glu	Lys	Ala	Arg	Ala	Ile	Met	Glu	Glu	Val	Met
						165						170			
Ser	Leu	Leu	Gln	Pro	Leu	Asn	Ile	Thr	Gln	Val	Leu	Ser	His	Gly	Glu
						180						185			
Gly	Thr	Asp	Ile	Asn	Phe	Trp	Ile	Gln	Ala	Gly	Val	Pro	Gly	Ala	Ser
						195						200			
Leu	Leu	Asp	Asp	Leu	Tyr	Lys	Tyr	Phe	Phe	Phe	His	His	Ser	His	Gly
210						215						220			
Asp	Thr	Met	Thr	Val	Met	Asp	Pro	Lys	Gln	Met	Asn	Val	Ala	Ala	Ala
225						230						235			
Val	Trp	Ala	Val	Val	Ser	Tyr	Val	Val	Ala	Asp	Met	Glu	Glu	Met	Leu
						245						250			
Pro Arg Ser															